BOBBY JINDAL
GOVERNOR

HAROLD LEGGETT, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Certified Mail No.

Agency Interest (AI) No. 1214
Activity No. PER20070012

Mr. Tom Germany
Plant Manager
Calumet Shreveport Lubricants and Waxes, LLC
Post Office Box 3099
Shreveport, LA 71129-7530

RE: Prevention of Significant Deterioration (PSD) Permit, PSD-LA-732, Shreveport Refinery - Calumet Shreveport Lubricants & Waxes LLC, Shreveport, Caddo Parish, Louisiana

Dear Mr. Germany:

Enclosed is your permit, PSD-LA-732. Construction of the proposed project is not allowed until such time as the corresponding Part 70 Operating Permit is issued.

Should you have any questions, contact Mei Wu of the Air Permits Division at (225) 219-3121.

Sincerely,

Cheryl Sonnier Nolan
Assistant Secretary

_____
Date

CSN: MDW

c: US EPA Region VI

Agency Interest No. 1214

PSD-LA-732

AUTHORIZATION TO CONSTRUCT AND OPERATE A CALUMET SHREVEPORT REFINERY PHASE IV PROJECT PURSUANT TO THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS IN LOUISIANA ENVIRONMENTAL REGULATORY CODE, LAC 33:III.509

In accordance with the provisions of the Louisiana Environmental Regulatory Code, LAC 33:III.509,

Calumet Shreveport Lubricants & Waxes LLC
3333 Midway St
Shreveport, LA 71109

is authorized to construct the Calumet Shreveport Refinery at the Calumet Shreveport Lubricants & Waxes LLC - Shreveport Refinery near

3333 Midway St
Shreveport, LA 71109

subject to the emissions limitations, monitoring requirements, and other conditions set forth hereinafter.

This permit and authorization to construct shall expire at midnight on _____, 2010, unless physical on site construction has begun by such date, or binding agreements or contractual obligations to undertake a program of construction of the source are entered into by such date.

Signed this _____ day of _____, 2008.

PN

Cheryl Sonnier Nolan
Assistant Secretary

Office of Environmental Services
Louisiana Department of Environmental Quality

BRIEFING SHEET

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732

PURPOSE

To obtain a PSD permit for Calumet Shreveport Lubricants and Waxes, LLC - the Shreveport Refinery, Phase IV project.

RECOMMENDATION

Approval of the proposed construction and issuance of a permit.

REVIEWING AGENCY

Louisiana Department of Environmental Quality, Office of Environmental Services, Air Permits Division

PROJECT DESCRIPTION

Calumet Shreveport Lubricants and Waxes, LLC - the Shreveport Refinery has a permitted crude oil refining capacity of 65,000 barrels per day.

Calumet produces lubricating oils, waxes, lube stocks, asphalt, diesel, and gasoline. Calumet refines crude oil by use of distillation, hydrofinishing dewaxing/desulfurization, hydrogenation, solvent extraction, hydrotreating, propane deasphalting and MEK dewaxing. Calumet also operates necessary equipment for required utilities such as cooling towers and boilers. Feed stocks and finished products are stored in pressure tanks, floating roof tanks, cone roof tanks, and gas blanketed tanks. Pipelines, tank truck and rail cars are used to deliver finished product to customers.

To improve the quality of existing refined products and to produce certain new products to meet market demands and new specifications, Calumet is proposing to upgrade the refinery with the Phase IV Project. This project is not an expansion project; the refinery permitted production capacity of 65,000 barrels per day will not increase. The Phase IV Project is primarily a quality-driven project which is necessary to meet market and customer demands.

Estimated emissions, in tons per year, are as follows:

Pollutant	Emissions	PSD de minimis	Netting analysis required?
PM_{10}	6.30	15	No.
SO_2	22.38	40	No.
NO_X	46.39	40	Yes.
CO	69.89	100	No.
VOC	44.84	40	Yes.

BRIEFING SHEET

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732

Estimated actual emission increases due to the project in tons per year are as follows:

Pollutant	Contemp. Increase	Project Increase	Net Change	PSD de minimis	PSD Review Required
PM_{10}	-	+ 6.30	+ 6.30	15	No
SO_2	-	+ 22.38	+ 22.38	40	No
NO_x	+30.60	+46.39	+76.99	40	Yes
CO	-	+69.89	+69.89	100	No
VOC	+24.99	+44.84	+69.83	40	Yes

Calumet is located in an attainment area. The increase in VOC and NO_x emissions is greater than 40 tons per year and requires a netting analysis. The contemporaneous netting period is from August 1, 2003 to August 1, 2008. After netting, the net change for VOC is 69.83 tons per year and NO_x is 76.99 tons per year, which exceeds attainment area major modification significant net increase limit (40 TPY). Therefore, PSD review is required with Best Available Control Technology (BACT) analysis.

TYPE OF REVIEW

Nitrogen oxide (NO_X) and volatile organic compound (VOC) emissions from the proposed Phase IV project will be above PSD significance levels. Therefore, the requested permit was reviewed in accordance with PSD regulations for NO_X and VOC emissions. Emissions of LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP) have been reviewed pursuant to the requirements of the Louisiana Air Quality Regulations.

BEST AVAILABLE CONTROL TECHNOLOGY

NO_X and VOC emissions are above PSD significance levels and must undergo PSD analyses. The selection of control technology was based on the BACT analysis using a "top down" approach and included consideration of control of toxic materials. BACT is to be applied to new emission units and for existing units that will be affected by the Phase IV Project.

Calumet proposes that proper burner design and operations for heaters and an LDAR program complying with current 'streamlined monitoring program' be considered BACT for VOC. Calumet will utilize ultra-low NOx burners (ULNB) and proper combustion control as BACT (for NOx from process heaters over 20 MM BTU/hr) to control NOx emissions to a degree equivalent to the Lowest Achievable Emission Rates (LAER) to fulfill BACT requirements of the PSD program.

BRIEFING SHEET

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AIR QUALITY IMPACT ANALYSIS

Prevention of Significant Deterioration regulations require an analysis of existing air quality for NOx and VOC pollutants emitted in significant amounts from the proposed Calumet Shreveport Refinery Phase IV Project

Environmental Protection Agency Regulatory Model (AERMOD) modeling indicates maximum ground level concentrations of NO_X are below the ambient significance levels and preconstruction monitoring exemption levels. Therefore, no preconstruction monitoring, increment analysis, or refined modeling is required for these pollutants.

ADDITIONAL IMPACTS

Soils, vegetation, and visibility will not be adversely impacted by the proposed facility, nor will any Class I area be affected. The project will not result in any significant secondary growth effects. Five hundred temporary jobs will be added and twenty new permanent jobs will be created as a result of this project.

PROCESSING TIME

Application Dated:	November 16, 2007
Additional Information Dated:	January 24, February 19, and June 24, 2008
Effective Completeness Date:	August 15, 2008

PUBLIC NOTICE

A notice requesting public comment on the proposed project was published in *The Advocate*, Baton Rouge, Louisiana, on xx xx, 2008; and in *The advocate*, Baton Rouge, Louisiana, on xx xx, 2008. Copies of the public notice were also mailed to individuals who have requested to be placed on the mailing list maintained by the Office of Environmental Services on xx xx, 2008. A proposed permit was also submitted to U.S. EPA Region VI on xx xx, 2008. All comments will be considered prior to a final permit decision.

PRELIMINARY DETERMINATION SUMMARY

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

I. APPLICANT

Calumet Shreveport Lubricants & Waxes LLC
3333 Midway St
Shreveport, LA 71109

II. LOCATION

Calumet Shreveport Lubricants & Waxes LLC - Shreveport Refinery is located at 3333 Midway St, Shreveport,, Louisiana. Approximate UTM coordinates are 425.599 kilometers East, 3592.554 kilometers North, zone 15.

III. PROJECT DESCRIPTION

Calumet Shreveport Lubricants and Waxes, LLC - the Shreveport Refinery has a permitted crude oil refining capacity of 65,000 barrels per day.

Calumet produces lubricating oils, waxes, lube stocks, asphalt, diesel, and gasoline. Calumet refines crude oil by use of distillation, hydrofinishing dewaxing/desulfurization, hydrogenation, solvent extraction, hydrotreating, propane deasphalting and MEK dewaxing. Calumet also operates necessary equipment for required utilities such as cooling towers and boilers. Feed stocks and finished products are stored in pressure tanks, floating roof tanks, cone roof tanks, and gas blanketed tanks. Pipelines, tank truck and rail cars are used to deliver finished product to customers.

To improve the quality of existing refined products and to produce certain new products to meet market demands and new specifications, Calumet is proposing to upgrade the refinery with the Phase IV Project. The Phase IV project is not an expansion project; the refinery permitted production capacity of 65,000 barrels per day will not increase. The Phase IV Project is primarily a quality-driven project which is necessary to meet market and customer demands.

The target objectives and associated actions for the Phase IV Project are as follows:

1. The Phase IV Project will improve lube oil hydrotreating capabilities by adding a lube oil hydrofinisher to improve lube oil color, to increase lube oil stabilization, and to meet next generation specifications for heavy duty diesel engine oils.
2. A new Hydrogen Plant is being added to provide hydrogen for the Lube Oil Hydrofinish Unit.

PRELIMINARY DETERMINATION SUMMARY

Shreveport Refinery
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3. A Propane Deasphalting Unit is being added to make more paving grade asphalt and to increase production of bright stock
4. A new Naphtha Unifiner is being added to provide improved treatment of naphtha streams.

The Phase IV Project upgrades and facility improvement include the addition of the following equipment:

- Addition of a new Lube Oil Hydrofinisher Unit (7,000 BOPD), including one new 15 MM BTU/hr process heater;
- Addition of a new Propane Deasphalting Unit (PDA, 6,600 BOPD), including one 20 MM BTU/hr process heater;
- Addition of a new Naphtha Unifiner Unit (8,000 BOPD) including two new process heaters (8.4 and 13.7 MM BTU/hr);
- Addition of a new Hydrogen Plant including two 40 MM BTU/hr reformers; the reformers will be equipped with ultra-low NOx burners (ULNB);
- Addition of a new 40 MM BTU/hr reformer for the existing hydrogen plant; the reformer will be equipped with a ULNB burner;
- Fugitive emissions from components associated with the project;
- Fugitive emissions from drains associated with the project;
- Two 25,000 bbl lube oil storage tanks;
- Two 50,000 bbl lube oil storage tanks;
- Two 10,000 bbl asphalt storage tanks;
- Four 5,000 bbl asphalt storage tanks;
- One 10,000 bbl lube oil storage tank;
- One 5,000 bbl lube oil storage tank; and
- Addition of eight asphalt tank heaters (1.6 MM BTU/hr each).

Estimated emissions, in tons per year, are as follows:

Pollutant	Emissions	PSD de minimis	PSD Review required?
PM_{10}	6.30	15	No.
SO_2	22.38	40	No.
NO_X	46.39	40	Yes.
CO	69.89	100	No.
VOC	44.84	40	Yes.

PRELIMINARY DETERMINATION SUMMARY

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

Estimated actual emission increases due to the project in tons per year are as follows:

Pollutant	Contemn. Increase	Project Increase	Net Change	PSD de minimis	PSD Review Required
PM_{10}	-	+ 6.30	+ 6.30	15	No
SO_2	-	+ 22.38	+ 22.38	40	No
NO_x	+30.60	+46.39	+76.99	40	Yes
CO	-	+69.89	+69.89	100	No
VOC	+24.99	+44.84	+69.83	40	Yes

IV. SOURCE IMPACT ANALYSIS

A proposed net increase in the emission rate of a regulated pollutant above de minimis levels for new major or modified major stationary sources requires review under Prevention of Significant Deterioration regulations, 40 CFR 52.21. PSD review entails the following analyses:

A. A determination of the Best Available Control Technology (BACT);

B. An analysis of the existing air quality and a determination of whether or not preconstruction or postconstruction monitoring will be required;

C. An analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS);

D. An analysis of the PSD increment consumption;

E. An analysis of the source related growth impacts;

F. An analysis of source related growth impacts on soils, vegetation, and visibility;

G. A Class I Area impact analysis; and

H. An analysis of the impact of toxic compound emissions.

A. BEST AVAILABLE CONTROL TECHNOLOGY

Under current PSD regulations, an analysis of "top down" BACT is required for the control of each regulated pollutant emitted from a modified major stationary in excess of the

specified significant emission rates. The top down approach to the BACT process involves determining the most stringent control technique available for a similar or identical source. If it can be shown that this level of control is infeasible based on technical, environmental, energy, and/or cost considerations, then it is rejected and the next most stringent level of control is determined and similarly evaluated. This process continues until a control level is arrived at which cannot be eliminated for any technical, environmental, or economic reason. A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes. Additionally, BACT shall not result in emissions of any pollutant which would exceed any applicable standard under 40 CFR Parts 60 and 61.

For this project, BACT analyses are required for NO_X and VOC emissions from the Phase IV project. Control for NOx emissions were analyzed using a "top down" approach.

BACT analyses for NOx

Processes Heaters - Potentially Applicable Technology

The following is a list of NOx emission control methods, that are commercially available for refinery process heaters:

1) Water – injection style burners
2) Combustion Control, e.g., Standard Burners with Air to Fuel Ration (AFR) control
3) Low-Nox burners (LNBs)
4) Flue Gas Recirculation (FGR)
5) Ultra Low-Nox Burners (ULNBs)
6) LNBs or ULNBs with FGR
7) Selective Catalytic Reduction (SCR) or Non-Selective Catalytic Reduction (NSCR) – (post combustion exhaust treatment)
8) Selective Non-Catalytic Reduction (SNCR)
9) SCONOx™ – (post combustion exhaust treatment)
10) LNBs or ULNBs with SCR/NSCR/ SCONOx™

Of the listed NOx emission control systems, six were considered to be technically infeasible:

Water – injection style burners

For a few types of external combustion equipment burners are available that accommodate injection of atomized water or steam into the flame zone. The presence of water vapor tends to reduce flame temperature and quench the NOx – forming reaction. This control option requires a water source to provide high volumes of de-ionized water to the burners,

distribution plumbing, and water/steam flow controls. The high water requirements associated with water injection style burners is viewed as a severe disadvantage. This control is considered to be technically infeasible.

Flue Gas Recirculation (FGR)

For large commercial boilers, commercial designs are available that include recirculation of exhaust flue gases back to the combustion chamber. The exhaust gases, being lean in oxygen, act as a diluent gas to quench the flame temperature, and thereby inhibit NOx formation reactions. Note that typically this option does not apply to heaters. The FGR is considered to be technically infeasible

LNBs or ULNBs with FGR

Boilers can be equipped with ULNBs in addition to using flue gas recirculation. This option does not apply to the heaters. The control is considered to be technically infeasible

Non-Selective Catalytic Reduction (NSCR)

NSCR is a fluc gas treatment technology. Precious metal catalysts are used to promote reactions that reduce most NO in the exhaust gases to molecular nitrogen (N_2). Catalyst modules are located in the exhaust duct just downstream of the combustion chamber where temperatures are sufficiently high for reaction. The major products of the reactions are molecular nitrogen, carbon dioxide, and water. Operating conditions for NSCR requires rich-burn fuel to air ratios with less than 4% oxygen present; therefore, NSCR is applicable only to rich fuel firing. The refinery heater with a heat input greater than 20 MM BTU/hr will be equipped with a lean-burn burner technology that typically results in more than 4% oxygen in the flue gas. Therefore, NSCR is technically infeasible.

Selective Non-Catalytic Reduction (SNCR)

In a high-temperature environmental (1600 – 2100°F), ammonia or other appropriate reducing agents will reduce NO_x to molecular nitrogen without the presence of a catalyst. Careful temperature control is needed; if the operating temperature is too low, unreacted ammonia will pass directly through the system to the atmosphere. If the operating temperature is too high, ammonia will be oxidized to NO and more NOx will be emitted than if no control were present. In practice NO_x levels of 9 ppm can be achieved.

The proposed refinery heater exhaust temperature will be below the acceptable temperature range. Therefore, large energy expenditures would be necessary to operate SNCR. For this reason, this technology is considered to be technically infeasible.

SCONOx™ and LNBs or ULNBs with SCONOx™

SCONOx™ is a relatively new technology that operates similarly to NSCR with a practical

heater flue-gas exhaust stream temperature range of 300 to 700° F. A single catalyst module reportedly controls NO_x, CO, and VOCs emission up to 90%.

There is no practical experience with controlling flue gas streams from refinery gas-fired equipment. At this time, SCONOx™ is not being used in any commercial refinery situation with equipment using a sulfur-bearing fuel gas stream. SCONOx™ has only been known to be commercially demonstrated on natural gas-fired electric utility sources with "clean" exhaust streams, that is units fired with very low-sulfur pipeline quality natural gas.

The specified SCONOx™ catalyst operating temperature range of 300 to 700°F is also a practical limitation for used for refinery process heaters. The typical exhaust temperature range is significantly higher for refinery process heaters and boilers. The SCONOx™ catalyst technology is not usable unless the tolerated temperature range is increased, or the exhaust temperature of the heaters is controlled.

SCONOx™ also creates an increase in system pressure drop that results in a substantial operating cost penalty. It is estimated that the net power incremental requirement due to higher catalyst bed pressure drop is about 1.8 times that associated with a comparable SCR system.

For all the above reasons, including the lack of commercial refinery experience, the fact that it is more expensive than SCR, and its technical and mechanical limitations, SCONOx™ and LNBs or ULNBs with SCONOx™ is technically infeasible for refinery process heaters.

Discussion of Feasible Technologies:

Combustion Control, e.g., Standard Burners with Air to Fuel Ration (AFR) control
A certain level of flame temperature reduction can be exercised by implementing fuel/air ratio control on standard burners. This control utilizes feedback control from stack NOx monitors to modulate fuel and air rates to maintain the load demand, while reducing NOx formation.

Low-NOx burners (LNBs)
LNBs alter the air to fuel ratio in the combustion zone by staging the introduction of air to promote a 'lean premixed' flame. This results in lower combustion temperatures and reduced NOx formation. LNB technology is regarded as a reliable and widely used emission control technology, offering 50% to 70% reduction below conventional burners.

Ultra Low-Nox Burners (ULNBs)

ULNBs, alter the air to fuel ratio in the combustion zone by staging the introduction of air to promote a "lean premixed' flame and by means of an internal flue gas recirculation. This results in lower combustion temperatures and reduced NOx formation. ULNBs operate with less pronounced heat rate, lower auxiliary electricity penalties, and no additional maintenance requirements as compared to add-on systems. Consequently, the use of ULNB technology provides an overall environment benefit, in the form of reduced NOx emissions, without offsetting environmental disadvantages like higher utility demands. There are also no personnel safety issues associated with the implementation of ULNBs.

The energy efficiency performance and maintenance requirements for ULNBs are expected to be the same as for standard burners. No significant energy impacts are associated with ULNB technology.

Selective Catalytic Reduction (SCR)

SCR is a post-combustion, flue gas treatment technology that uses ammonia as a reagent to reduce NOx to molecular nitrogen and water in the presence of a metal oxide catalyst. SCR systems can achieve NOx reduction efficiencies of up to 90% and reliable NOx emission levels of about 0.0125 lb/MM BTU. To implement SCR control, ammonia storage and handling systems must be installed. Careful control of the ammonia injection and operating parameters must be maintained to limit ammonia slip (emissions of unreacted ammonia) and maintain desired NOx reduction.

The SCR process does have significant environmental and energy disadvantages.

- Use of ammonia reagent, with associated storage, shipping, and handling risks;
- Handling and disposal of a degenerated catalyst as a new waste stream;
- Ammonia slip emissions from the system represent a new pollutant emissions;
- Ammonium salt precipitates may increase PM_{10} and visible emissions; and
- Energy impacts associated with SCR are primarily due to increased system pressure drop caused by the SCR catalyst bed. The pressure drop results in elevated back-pressure in the heater, thus increasing its heat rate and electric demand from the burner fan.

Air-to-fuel ratio control, LNBs, ULNBs, and ULNBs with SCR are considered to be the technically-feasible NOx emission control technologies for this project. The best burner technology combination consists of proper combustion techniques (air-to fuel rations control) and the installation of ULNBs.

For process heaters over 20 MM BTU/hr, SCR can be combined with ULNB technology to achieve more stringent NOx emission levels than any burner technology alone. For this

reason, a combination of ULNB and SCR is considered as the top control technology for heaters.

After summarizing the capital costs, annual costs and cost effectiveness for each process heater (see next page), installing SCR as add-on control to the heaters is estimated to cost approximately $24,432 to remove each ton of NOx. Use of SCR would have a significant economic impact, and is rejected as a BACT option.

Proper combustion techniques (air-to fuel rations control) and the installation of ULNBs is considered to be BACT for the control of NOx emissions. Refinery gas fired heaters using this technology will attain a NOx level of 0.03 lb/MM BTU.

Heater Technically Feasible NOx Control Option

Available Control Alternatives	Selected BACT Option	Negative Impacts	Control Efficiency	Average Cost Effectiveness ($ /ton)
ULNB	Yes	None	0.03 lb/MM BTU	NA
ULNB with SCR	No	Economic Energy Environmental	0.0125 lb MM BTU	≥ $ 24,432/ton See next talbe

Cost analysis of SCR as NOx control option		
Purchased Equipment Costs	$ 612,600	
Direct Installation Costs	$ 352,245	
Indirect Costs	$ 555,935	
Total Capital Investment	Sum Costs	$ 1,520,780
Annualized Total Capital Investment (20-year equipment life, 9.1% interest rate)	$ 1,520,780 * 0.1103	$ 167,742
Annual Operating Cost		$ 121,193
Total Annual Cost	$ 167,742 + $ 121,193	$ 288,935
VOC reduced (tons/year)		11.83
Cost Effectiveness ($ per ton VOC reduced)	$ 288,935 / 11.83	$ 24,432

PRELIMINARY DETERMINATION SUMMARY

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Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

BACT analyses for VOC

Potentially Applicable Technology

Emissions of VOC from the refinery heaters result from incomplete fuel combustion. VOC emissions result from incomplete combustion of the heavier molecular weight components of the refinery gas and/or natural gas fuel. In addition, VOC emissions are produced to some degree by the reforming of hydrocarbon molecules in the combustion zone.

Based on a review of the EPA's RACT/BACT/LAER Clearinghouse (RBLC) for refinery fuel fired equipment, proper combustion design and control is the sole applied BACT measure for VOC. Permitted precedents have not imposed controls beyond proper combustor design and operation, as VOC BACT. However, a top-down analysis of the more-stringent VOC control options is provided as follows:

Control options for VOC generally consist of fuel specifications, combustion modification measures, or postcombustion controls. Emission control methods for VOC that are commercially available for refinery process heaters and boilers include, in order of increasing control effectiveness:

- Use of natural gas for improved combustion efficiency
- Proper Burner Design and Operation
- Catalytic Oxidation for VOC alone
- SCONOx ™

Use of natural gas for improved combustion efficiency

VOC emissions with natural gas fired equipment are generally the lowest achievable because of the combustion efficiency of natural gas. Natural gas is processed to meet certain specifications, including methane content, heating value, and sulfur content. This affects combustion efficiency. In contrast, refinery fuel gas is a byproduct of the refining operations, it is produced, processed, and consumed onsite. It may contain significant proportions of fuel components other than methane, such as hydrogen and butanes. Because it is a byproduct of various refinery processes, it is not technically feasible to make refinery gas meet pipeline quality natural gas specifications. Additionally, the refinery must maximize the utilization of refinery fuel gas for fuel-fired equipment, due to material balance constraints.

Therefore, sole use of natural gas is not a technically feasible option.

Proper Burner Design and Operation

Proper burner design to achieve good combustion efficiency will minimize the generation of VOCs. Good combustion efficiency relies on both hardware design and operating procedures. A firebox design that provides proper residence time, temperature, and combustion zone turbulence, in combustion with proper control of air-to fuel ration, is an essential element of low VOC technology. Proper burner design and operation is considered as technically feasible

Catalytic Oxidation for VOC alone

Catalytic oxidation of VOC gases requires a catalyst bed located in the heater or boiler exhaust. Catalytic oxidation can be installed along with the SCR catalyst. Reduction efficiencies of 50% are typical for VOC. For BACT purposes, this control option is considered a technically feasible abatement option for the proposed units which are greater than 20 MM BTU/hr. However, VOC catalytic oxidation has not been used on refinery heaters/boilers.

SCONOx ™

SCONOx ™ is a relatively new technology that operates similarly to NSCR with a practical heater flue gas exhaust stream temperature range of 300 to 700 °F. A single catalyst module reportedly controls NOx, CO, and VOCs emissions up to 90%.

The reaction is a multi-step process. A potassium carbonate coating on the catalyst adsorbs NO_2. The catalyst bed is regenerated periodically by passing a controlled mixture of regeneration gases (i.e., hydrogen and carbon dioxide in steam as the carrier) across its surface in the absence of oxygen. The regeneration process reacts with the nitrates and nitrites to form water and elemental nitrogen. CO_2 in the regeneration gas reacts with nitrates and nitrites to replenish the potassium carbonate coating on the catalyst surface. In different portions of the catalyst module, CO, and VOC are oxidized to form water and CO_2.

The mechanical complexity of SCONOx ™ increases in rough proportion to the heat duty rating of the unit. For larger commercial scale units, a large number of mechanical dampers must operate reliably every few minutes under hot and corrosive conditions to divert the flow of flue gas and regenerating hydrogen gas through segments of the catalyst beds. This design feature is aggravated by the fact that refinery fuel gas has a higher corrosive acid concentration than natural gas.

The specified SCONOx ™ catalyst operating temperature range of 300 to 700 ° F is also a practical limitation for use for refinery process heaters. The typical exhaust temperature range is significantly higher for refinery process heaters and boilers. The SCONOx ™ catalyst technology us not usable unless the tolerated temperature range is increased, or the exhaust temperature of the heaters is controlled.

SCONOx ™ also creates an increase in system pressure drop that results in a substantial operating cost penalty. It is estimated that the net power incremental requirement due to higher catalyst bed pressure drop is about 1.8 times that associated with a comparable SCR system.

And also, there is no practical experience with operating on flue gas streams from refinery gas fired equipment. SCONOx ™ is not being used in any commercial refinery situation with equipment using a sulfur-bearing fuel gas stream.

For all of the above reasons, including the lack of commercial; refinery experience, the fact that it is more expensive than SCR, and its technical and mechanical limitations, SCONOx ™ is deemed to be technically infeasible for refinery process heaters and boilers.

Two technically feasible control options are to be evaluated further, in order to increase effectiveness:

a. Proper Burner Design and Operations

Proper design of burner and firebox components in the heaters and boilers will provide the proper air-to-fuel ratio, proper residence time, temperature, and combustion zone turbulence essential to maintain low VOC emission levels. Because proper burner design and operation promote low VOC emissions, there are no detrimental environmental or energy effects related to this control option.

b. Catalytic Oxidation for VOC alone or SCR with added Catalyst Oxidation

Spent catalyst material must be packaged and safely disposed of as hazardous waste. However, industry experience indicates that the removal and replacement of the catalyst can be conducted safely, with insignificant risk to the environment.

The VOC oxidation catalyst effectively oxidizes the SO_2 normally present in the refinery gas-fired heater exhaust to sulfite SO_3 and sulfate SO_4. The SO_3/SO_4 species react with excess ammonia to create sub-micro sized ammonium bisulfate salt particles that appear in the form of secondary PM_{10} and opacity plumes. These particles penetrate the porous catalyst structure, and reduce its effectiveness.

The use of VOC catalyst technology poses additional energy cost impacts above those associated with proper combustion control. Catalyst oxidation of CO requires a location in the exhaust path where flue gas temperature ranges from 800 to 1200 °F. In most

cases, normal exhaust temperatures from refinery heaters and boilers downstream of heat recovery exchangers are below 900 °F. Therefore, CO catalyst would need to be located prior to the heat recovery exchangers reducing heat to be recovered from the exhaust flue gas.

Additionally, pressure drop through the system catalyst bed results in increased electrical demand on the draft fans, thus causing higher energy costs. Based on engineering estimation, it would cost $1,054.60 to remove each ton of VOC. Therefore, as a result of high cost, use of VOC catalytic oxidation is not practical as a BACT option.

The refinery proposes that proper burner design and operation be considered BACT for VOC control.

Calumet is proposing several storage tanks for the Phase IV Project. These tanks are vertical fixed roof tanks storing materials with vapor pressure less than 0.035 psia. The vapor pressure is below regulatory thresholds; therefore, no controls are required under the applicable regulations (40 CFR 60 Subpart Kb and 40 CFR 63 Subpart CC).

Facility storage tanks are subject to NESHAP and NSPS control requirements. Compliance with those federal requirements is proposed as BACT for all BACT-applicable storage tanks. According to the regulations, storage tanks below certain sizes and/or storing materials with low vapor pressure threshold are generally exempt from controls. According to the regulations, the proposed storage tanks for the Phase IV Project are not required to install any controls because of the low vapor pressure of the contents. Since all of the proposed storage tanks are exempt from NESHAP and NSPS (with the exception of the asphalt storage tanks which are subject 40 CFR 60 Subpart UU for visible emissions) no controls is selected as the BACT for VOC emissions from these sources.

The Phase IV Project involves hundreds of process piping components to distribute the liquid and gaseous materials among the process units during the refining process. VOC emissions from those components are mostly related to leakage from seals, connection interfaces, valves stems, etc. The facility will be subject to the Louisiana MACT for refineries, a state program with some leak definitions and monitoring requirements more stringent than federal rules. The Shreveport Refinery is required to comply with a "streamlined" equipment leak monitoring program in the current Title V Permit. This program requires the use of the most stringent leak definitions, monitoring, recordkeeping, and reporting requirements of any applicable regulations. The Leak Detection and Repair (LDAR) program complying with the current "streamlined" monitoring program is chosen as BACT.

New process wastewater drains are proposed with the Phase IV Project. These drains will be in compliance with 40 CFR 60 Subpart QQQ. NSPS and NESHAP requirements set the floor for BACT; therefore the requirements of NSPS Subpart QQQ are selected as BACT for the process drains.

B. ANALYSIS OF EXISTING AIR QUALITY

Prevention of Significant Deterioration regulations require an analysis of existing air quality for those pollutants to be emitted in significant amounts from a proposed major source. NO_X, and VOC are the pollutants of concern in this case.

Significant Impact Analysis (SIA) modeling of NO_X emissions from the proposed project indicates that the maximum offsite ground level concentrations of these pollutants will be below their respective PSD significance levels and preconstruction monitoring levels. Therefore, pre-construction monitoring, refined NAAQS modeling, and increment consumption analyses were not required.

C. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ANALYSIS

Because SIA and American Meteorological Society/Environmental Protection Agency Regulatory Model (AMRMOD) modeling analyses indicated concentrations of each pollutant would be below its PSD ambient significance level, refined NAAQS modeling was not required.

D. PSD INCREMENT ANALYSIS

Because SIA modeling analyses indicated concentrations of each pollutant would be below its PSD ambient significance level, PSD increment modeling was not required.

E. SOURCE RELATED GROWTH IMPACTS

Operation of this facility is not expected to have any significant effect on residential growth or industrial/commercial development in the area of the facility. No significant net change in employment, population, or housing will be associated with the project. As a result, there will not be any significant increases in pollutant emissions indirectly associated with Calumet Shreveport Lubricants & Waxes LLC's proposal. Secondary growth effects will include five

hundred temporary construction related jobs and approximately twenty new permanent jobs.

F. SOILS, VEGETATION, AND VISIBILITY IMPACTS

There will be no significant impact on area soils, vegetation, or visibility.

G. CLASS I AREA IMPACTS

The Caney Creek Wilderness Area is the nearest Class I area to the refinery. The Caney Creek Wilderness Area is located approximately 215 kilometers (over 100 kilometers) from the facility, therefore, the Phase IV Project is not expected to significantly impact the visibility of any Class I areas. The Federal Land Management (FLM) has developed some internal screening criteria using a "Q/d" approach. Q/D refers to the ratio of the sum of annual emissions (in tons per year) of PM_{10}, SO_2, NO_x, and H_2SO_4 to the distance (in kilometers) from the nearest boundary of the Class I area.

$$Q/D = (PM_{10} + SO_2 + NOx + H_2SO_4)/\text{Class I (distance in kilometers)} = (6.30+22.38+46.39)/215 = 0.35$$

If $Q/d \geq 4$, the FLM should be contacted to determine if further visibility analyses should be conducted. The Q/d for the Phase IV Project is approximately 0.35, therefore, no further action is required.

H. TOXIC EMISSIONS IMPACT

The selection of control technology based on the BACT analysis included consideration of control of toxic emissions.

V. CONCLUSION

The Air Permits Division has made a preliminary determination to approve the construction of the Phase IV Project at the Calumet Shreveport Lubricants & Waxes LLC - Shreveport Refinery near Shreveport, in Caddo Parish, Louisiana, subject to the attached specific and general conditions. In the event of a discrepancy in the provisions found in the application and those in this Preliminary Determination Summary, the Preliminary Determination Summary shall prevail.

SPECIFIC CONDITIONS

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

1. The permittee is authorized to operate in conformity with the specifications submitted to the Louisiana Department of Environmental Quality (LDEQ) as analyzed in LDEQ's document entitled "Preliminary Determination Summary" dated March 5, 2008, and subject to the following emissions limitations and other specified conditions. Specifications submitted are contained in the application and Emission Inventory Questionnaire dated November 16, 2007, along with supplemental information dated January 24, February 19, and June 24, 2008.

Table A (Permitted Limits):

ID No.	Description	NO_X		VOC	
		lb/hr	tons/yr	lb/hr	tons/yr
EQT0251	VII-o Lube Hydrofinish Heater	1.80	6.57	0.10	0.36
EQT0252	VII-p PDA Heater	2.40	8.76	0.13	0.48
EQT0253	VII-q Naphtha Charge Heater	1.64	6.00	0.09	0.33
EQT0254	VII-r Naphtha Reboiler Heater	1.01	3.68	0.06	0.20
EQT0255	VII-t New Reformer-Existing Hydrogen Plant Ultra Low-Nox Burners	1.44	5.26	0.26	0.96
EQT0256	VII-u New Reformer #1-New Hydrogen Plant Ultra Low-Nox Burners	1.44	5.26	0.26	0.96
EQT0257	VII-v New Reformer #2-New Hydrogen Plant Ultra Low-Nox Burners	1.44	5.26	0.26	0.96
EQT0261	VIII-m Tank 207 Heater 1	0.19	0.70	0.01	0.04
EQT0262	VIII-n Tank 207 Heater 2	0.19	0.70	0.01	0.04
EQT0263	VIII-o Tank 208 Heater 1	0.19	0.70	0.01	0.04
EQT0264	VIII-p Tank 208 Heater 2	0.19	0.70	0.01	0.04
EQT0265	VIII-q Tank 212 Heater	0.19	0.70	0.01	0.04
EQT0266	VIII-r Tank 213 Heater	0.19	0.70	0.01	0.04
EQT0267	VIII-s Tank 214 Heater	0.19	0.70	0.01	0.04
EQT0268	VIII-t Tank 215 Heater	0.19	0.70	0.01	0.04
EQT0269	T-203-Fixed Roof Storage Tank			0.05	0.04
EQT0270	T-204-Fixed Roof Storage Tank			0.05	0.04
EQT0271	T-205-Fixed Roof Storage Tank			0.11	0.08
EQT0272	T-206 Fixed Roof Storage Tank			0.11	0.08
EQT0273	T-207 Asphalt Tank			0.29	1.29
EQT0274	T-208 Asphalt Tank			0.29	1.29
EQT0275	T-212 Asphalt Tank			0.14	0.63
EQT0276	T-213 Asphalt Tank			0.14	0.63
EQT0277	T-214 Asphalt Tank			0.14	0.63
EQT0278	T-215 Asphalt Tank			0.14	0.63
EQT0279	T-216 Fixed Roof Storage Tank			0.05	0.01
EQT0280	T-217 Fixed Roof Storage Tank			0.05	0.01
FUG0003	FUG-IV-Fugitives from IV Project Components			7.16	31.36
FUG0004	FUG-DR-Fugitives from New Drains			0.97	3.55

SPECIFIC CONDITIONS

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

Table B (BACT Limits):

ID No.	Description	BACT	NO_x Limit
EQT0255	VII-t New Reformer-Existing Hydrogen Plant (40 MM BTU/hr)	ULNB	0.03 lb/MM BTU
EQT0256	VII-u New Reformer #1-New Hydrogen Plant (40 MM BTU/hr)	ULNB	0.03 lb/MM BTU
EQT0257	VII-v New Reformer #2-New Hydrogen Plant (40 MM BTU/hr)	ULNB	0.03 lb/MM BTU

2. Permittee shall comply with a streamlined equipment leak monitoring program. Compliance with the streamlined program in accordance with this specific condition shall serve to comply with each of the fugitive emission monitoring programs being streamlined, as indicated in the following table. Non-compliance with the streamlined program in accordance with this specific condition may subject the permittee to enforcement action for one or more of the applicable fugitive emissions programs.

i) Permittee shall apply the streamlined program to the combined universe of components subject to any of the programs being streamlined. Any component type which does not require periodic monitoring under the overall most stringent program (LAC 33:III.Chapter 51) shall be monitored as required by the most stringent requirements of any other program being streamlined and will not be exempted. The streamlined program will include any exemptions based on size of component available in any of the programs being streamlined.

ii) Permittee shall use leak definitions and monitoring frequency based on the overall most stringent program. Percent leaker performance shall be calculated using the provisions of the overall most stringent program. Annual monitoring shall be defined as once every four quarters. Some allowance may be made in the first year of the streamlined program in order to allow for transition from existing monitoring schedules.

iii) Permittee shall comply with recordkeeping and reporting requirements of the overall most stringent program. Semiannual reports shall be submitted on January 31 and July 31, to cover the periods July 1 through December 31 and January 1 through June 30, respectively. The semiannual reports shall include any monitoring performed within the reporting periods.

iv) The facility shall comply with the requirements of the Louisiana MACT Determination for Refinery Equipment Leaks (LDREL) dated July 26, 1994, except as noted below:

A. A connector is in VOTAP service if a piece of equipment that either contains or contacts a volatile fluid (liquid or gas) that is at least 5% of the sum of all Class I and II organic toxic air pollutants.

B. Connectors that are determined to be leaking by visual, audible, olfactory, or any other detection method shall be monitored, repaired, recorded, and reported according to the provisions in the Louisiana Refinery Equipment Leaks Determination and any applicable

equipment leak programs.

C. Connectors associated with valves shall be monitored according to the valve requirements of the applicable program. However, each associated connector shall be monitored as part of the valve and not as separate component. A connector that is associated with a valve and is determined to be leaking shall result in the valve being recorded as a leaking valve and included in the calculation of percent valves leaking.

D. Permittee shall submit to the Office of Environmental Assessment, Environmental Technology Division reports containing information concerning valves. Calumet Lubricants shall include on these reports the number of connectors associated with the valves that were monitored and the number of connectors found leaking, but shall not report a percent connectors leaking.

Unit or Plant Site	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
Calumet Shreveport Refinery	Louisiana MACT Determination for Refineries	≥ 5% VOTAP	Louisiana MACT Determination for Refineries
	40 CFR 63 Subpart CC-Refinery MACT Modified HON Option	≥ 5% VOHAP	
	40 CFR 61 Subparts J and V (LAC 33:III.5133 and 5171)-NESHAP for Equipment Leaks of Benzene	≥ 10% VHAP (Benzene)	
	40 CFR 60 Subparts VV and GGG (LAC 33:III.3730-3749 and 4780-4783)-NSPS for Equipment Leaks of VOC in SOCMI or Refineries	≥ 10% VOC	
	LAC 33:III.2121-Louisiana Fugitive Emission Control for Specified Parishes	≥ 10% VOC	
	LAC 33:III.5109 – Louisiana MACT Determination for Non-HON Sources	≥ 5% VOTAP	

LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS

I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.

II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.

III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the application and Emission Inventory Questionnaire dated November 16, 2007, along with supplemental information dated January 24, February 19, and June 24, 2008.

IV. This permit shall become invalid, for the sources not constructed, if:

A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;

B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.

V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.

VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.

VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.

VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental

LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS

Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.

IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Enforcement Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition 1.

X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.

XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Enforcement Division with a written report as specified below.

A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.

B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.

C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:

1. Report by June 30 to cover January through March
2. Report by September 30 to cover April through June
3. Report by December 31 to cover July through September
4. Report by March 31 to cover October through December

D. Each report submitted in accordance with this condition shall contain the following information:

1. Description of noncomplying emission(s);
2. Cause of noncompliance;
3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.

LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS

XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:

A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;

B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;

C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and

D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.

XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.

XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.

XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services in accordance with LAC 33:I.Chapter 19.Facility Name and Ownership/Operator Changes Process.

XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:

1. Generally be less than 5 TPY
2. Be less than the minimum emission rate (MER)
3. Be scheduled daily, weekly, monthly, etc., or
4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

XVIII. Provisions of the permit may be appealed to the secretary in writing pursuant to La. R.S. 30:2024(A) within 30 days from notice of the permit action. A request may be made to the secretary to suspend those provisions of the

permit specifically appealed. The permit remains in effect to the extent that the secretary or assistant secretary does not elect to suspend the appealed provisions as requested or, at his discretion, other permit provisions as well. Construction cannot proceed, except as specifically approved by the secretary or assistant secretary, until a final decision has been rendered on the appeal. A request for hearing must be sent to the Office of the Secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division
La. Dept. of Environmental Quality
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

XIX. For Part 70 sources, certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

TABLE II: AIR QUALITY ANALYSIS SUMMARY

Shreveport Refinery
Agency Interest No.: 1214
Calumet Shreveport Lubricants & Waxes LLC
Shreveport, Caddo Parish, Louisiana
PSD-LA-732, August 15, 2008

Pollutant	Averaging Period	Preliminary Screening Concentration ($\mu g/m^3$)	Level of Significant Impact ($\mu g/m^3$)	Significant Monitoring Concentration ($\mu g/m^3$)	At the Monitoring Station		Background ($\mu g/m^3$)	Maximum Modeled Concentration ($\mu g/m^3$)	Modeled + Background Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Modeled PSD Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
					Monitored Values ($\mu g/m^3$)	Modeling results ($\mu g/m^3$)						
PM_{10}	24-hour		5	10						150		30
	Annual		1	-						50		17
SO_2	3-hour		25	-						1300		512
	24-hour		5	13						365		91
	Annual		1	-						80		20
NO_X	Annual	0.98	1	14						100		25
CO	1-hour		2000	-						40,000		-
	8-hour		500	575						10,000		-
Lead	3-month		-	0.1						1.5	-	-

NR = Not required.